

## **Supplemental Material**

### **Relationships between Indicators of Cardiovascular Disease and Intensity of Oil and Natural Gas Activity in Northeastern Colorado.**

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**Table S1. Augmentation index mean and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile and augmentation index not corrected for heart rate.**

Model	Mean (95% Confidence Interval)			Difference between means (95% Confidence Interval)		
	Low <sup>1</sup> N = 92	Medium <sup>1</sup> N = 81	High <sup>2</sup> N = 81	Low <sup>1</sup>	Medium <sup>1</sup>	High <sup>1</sup>
Crude	86.2	87.0	90.8	Referent	0.845 (-3.40, 5.09)	4.56 (0.283, 8.83)
Adjusted <sup>2</sup>	86.6	86.2	89.2		-0.438 (-4.63, 3.75)	2.5 (-1.76, 6.83)

<sup>1</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>2</sup>Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

N = number

**Table S2. Sensitivity analysis exclusion of 33 results for participants reporting illness 24-hours prior to collection of CVD biomarkers. Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.**

Biomarker	Mean (95% Confidence Interval)			Difference between means (95% Confidence Interval)		
	Low <sup>1</sup> N = 80	Medium <sup>1</sup> N = 70	High <sup>2</sup> N = 71	Low <sup>1</sup>	Medium <sup>1</sup>	High <sup>1</sup>
Augmentation Index (percent at HR 75)						
Crude	4.7 (0.3, 9.0)	16.5 (12.2, 20.9)	14.3 (9.9, 18.8)	Referent	11.9 (5.6, 18.1)	9.6 (3.3, 15.9)
Adjusted <sup>2</sup>	11.0 (5.2, 16.8)	16.2 (11.1, 21.3)	17.1 (11.8, 22.3)		5.2 (-0.1, 10.6)	6.1 (0.6, 11.6)
Systolic Blood Pressure (mm Hg)						
Crude	118 (115, 122)	119 (115, 123)	123 (119, 127)	Referent	1 (-5, 6)	4 (-1, 10)
Adjusted <sup>2</sup>	117 (111, 122)	116 (111, 121)	120 (115,125)		-1 (-6, 5)	3 (-2, 9)
Diastolic Blood Pressure (mm Hg)						
Crude	73 (70, 75)	72 (69, 75)	76 (73, 79)	Referent	-1 (-4 , 3)	3 (0, 7)
Adjusted <sup>2</sup>	73 (69, 77)	72 (69, 76)	76 (72, 79)		-1 (-4, 3)	3 (-1, 7)
Interleukin-1β (pg/ml)						
Crude	0.556 (0.506, 0.611)	0.562 (0.509, 0.621)	0.638 (0.578, 0.705)	Referent	0.006 (-0.067, 0.089)	0.082 (-0.001, 0.177)
Adjusted <sup>1</sup>	0.550 (0.466, 0.647)	0.566 (0.488, 0.658)	0.628 (0.537, 0.733)		0.017 (-0.065, 0.113)	0.079 (-0.014, 0.187)
Interleukin-6 (pg/ml)						
Crude	0.794 (0.681, 0.925)	0.845 (0.723, 0.989)	0.904 (0.771, 1.06)	Referent	0.051 (-0.117, 0.260)	0.114 (-0.070, 0.338)
Adjusted <sup>1</sup>	0.889 (0.713, 1.11)	0.794 (0.652, 0.971)	0.859 (0.700, 1.05)		-0.0949 (-0.244, 0.088)	-0.302 (-0.193, 0.170)
Interleukin-8 (pg/ml)						
Crude	5.12 (4.50, 5.81)	4.92 (4.32, 5.61)	5.52 (4.83, 6.31)	Referent	-0.196 (-1.024, 0.812)	0.417 (-0.535, 1.551)
Adjusted <sup>1</sup>	5.90 (4.71, 7.38)	4.80 (3.92, 5.86)	5.81 (4.72, 7.14)		-1.105 (-2.012, 0.014)	-0.094 (-1.124, 1.292)
Tumor Necrosis Factor (pg/ml)						
Crude	4.55 (4.01, 5.16)	5.07 (4.46, 5.75)	5.27 (4.63, 6.01)	Referent	0.520 (-0.333, 1.531)	0.722 (-0.165, 1.789)
Adjusted <sup>1</sup>	4.71 (3.80, 5.83)	4.84 (4.00, 5.86)	5.16 (4.24, 6.28)		0.132 (-0.747, 1.206)	0.454 (-0.505, 1.629)

<sup>1</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>2</sup>Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

HR= heart rate, mm Hg = millimeters of mercury, N = number of observations, % = percent, pg/ml = picograms per milliliter

**Table S3. Sensitivity analysis exclusion of 19 results for participants who drank alcohol within 10-days prior to collection of biomarkers (N=?). Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation..**

Biomarker	Mean (95% Confidence Interval)			Difference between means (95% Confidence Interval)		
	Low <sup>1</sup> N = 83	Medium <sup>1</sup> N = 76	High <sup>2</sup> N = 76	Low <sup>1</sup>	Medium <sup>1</sup>	High <sup>1</sup>
Augmentation Index (percent at HR 75)						
Crude	4.6 (0.2, 8.9)	16.6 (12.2, 21.0)	15.0 (10.6, 19.4)	Referent	12.0 (5.8, 18.3)	10.4 (4.1, 16.7)
Adjusted <sup>2</sup>	11.0 (5.4, 16.5)	15.8 (10.7,20.9)	17.6 (12.5, 22.6)		4.9 (-0.4, 10.1)	6.6 (1.3, 11.9)
Systolic Blood Pressure (mm Hg)						
Crude	119 (115, 123)	120 (116,124)	123 (119, 127)	Referent	1 (-5, 7)	4 (-2 , 10)
Adjusted <sup>2</sup>	118 (112, 123)	116 (111, 121)	120 (115, 125)		-2 (-7, 4)	2 (-3, 7)
Diastolic Blood Pressure (mm Hg)						
Crude	73 (70, 76)	72 (70, 75)	77 (74, 79)	Referent	-1 (-4, 3)	4 (0, 7)
Adjusted <sup>2</sup>	74 (71, 78)	73 (69, 77)	76 (73, 80)		-1 (-5, 2)	2 (-2, 6)
Interleukin-1β (pg/ml)						
Crude	0.545 (0.495, 0.598)	0.561 (0.509, 0.618)	0.624 (0.565, 0.687)	Referent	0.017 (-0.056, 0.098)	0.078 (-0.003, 0.170)
Adjusted <sup>1</sup>	0.537 (0.456, 0.632)	0.553 (0.475, 0.646)	0.605 (0.521, 0.701)		0.018 (-0.062, 0.110)	0.068 (-0.019, 0.171)
Interleukin-6 (pg/ml)						
Crude	0.820 (0.698, 0.964)	0.873 (0.740, 1.03)	0.927 (0.785, 1.10)	Referent	0.053 (-0.130, 0.284)	0.109 (-0.088, 0.355)
Adjusted <sup>1</sup>	0.973 (0.780, 1.21)	0.824 (0.668, 1.02)	0.906 (0.740, 1.109)		-0.117 (-0.239, 0.032)	-0.052 (-0.187, 0.112)
Interleukin-8 (pg/ml)						
Crude	4.97 (4.35, 5.66)	4.97 (4.35, 5.68)	5.36 (4.68, 6.14)	Referent	0 (-0.854, 1.046)	0.404 (-0.540, 1.535)
Adjusted <sup>1</sup>	5.57 (4.47, 6.95)	4.67 (3.81, 5.71)	5.50 (4.50, 6.71)		-0.905 (-1.770, 0.169)	-0.076 (-1.126)
Tumor Necrosis Factor (pg/ml)						
Crude	4.57 (4.02, 5.20)	5.22 (4.58, 5.94)	5.16 (4.53, 5.90)	Referent	0.653 (-0.236, 1.724)	0.593 (-0.285, 1.648)
Adjusted <sup>1</sup>	4.72 (3.80, 5.86)	4.92 (4.04, 6.00)	5.01 (4.12, 6.10)		0.200 (-0.639, 1.305)	0.291 (-0.648, 1.445)

<sup>1</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>2</sup>Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

HR= heart rate, mm Hg = millimeters of mercury, N = number of observations, % = percent, pg/ml = picograms per milliliter

**Table S4. Sensitivity analysis exclusion of results for 4 participants who relocated home residence within 3-months prior to collection of biomarkers. Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.**

Biomarker	Mean (95% Confidence Interval)			Difference between means (95% Confidence Interval)		
	Low <sup>1</sup> N = 88	Medium <sup>1</sup> N = 81	High <sup>2</sup> N = 81	Low <sup>1</sup>	Medium <sup>1</sup>	High <sup>1</sup>
Augmentation Index (percent at HR 75)						
Crude	4.9 (0.7, 9.2)	17.6 (13.4, 21.9)	14.7 (10.4, 18.9)	Referent	12.7 (6.6, 18.8)	9.8 (3.7, 15.9)
Adjusted <sup>2</sup>	10.3 (4.7, 16.0)	16.6 (11.5, 21.6)	16.8 (11.7, 21.8)		6.2 (0.9, 11.6)	6.5 (1.1, 11.8)
Systolic Blood Pressure (mm Hg)						
Crude	119 (115, 122)	120 (116, 124)	123 (119, 127)	Referent	2 (-4, 8)	5 (-1,10)
Adjusted <sup>2</sup>	117 (111, 122)	117 (112,122)	120 (115, 125)		0 (-5, 5)	3 (-2, 8)
Diastolic Blood Pressure (mm Hg)						
Crude	73 (70, 76)	73 (70, 75)	77 (74, 79)	Referent	0 (-4, 4)	4 (0, 7)
Adjusted <sup>2</sup>	74 (70, 78)	73 (70, 77)	76 (73, 80)		-1 (-4, 3)	2 (-1, 6)
Interleukin-1β (pg/ml)						
Crude	0.551 (0.504, 0.604)	0.564 (0.513, 0.618)	0.624 (0.569, 0.685)	Referent	0.013 (-0.058, 0.092)	0.073 (-0.004, 0.162)
Adjusted <sup>1</sup>	0.542 (0.462, 0.635)	0.558 (0.483, 0.646)	0.608 (0.527, 0.701)		0.016 (-0.061, 0.017)	0.066 (-0.020, 0.164)
Interleukin-6 (pg/ml)						
Crude	0.813 (0.695, 0.948)	0.893 (0.762, 1.05)	0.935 (0.796, 1.10)	Referent	0.083 (-0.098, 0.309)	0.123 (-0.066, 0.362)
Adjusted <sup>1</sup>	0.966 (0.780, 1.20)	0.838 (0.689, 1.02)	0.904 (0.745, 1.10)		-0.129 (-0.282, 0.062)	-0.062 (-0.230, 0.141)
Interleukin-8 (pg/ml)						
Crude	5.02 (4.44, 5.70)	5.08 (4.47, 5.77)	5.41 (4.76, 6.15)	Referent	0.0582 (-0.787, 1.058)	0.384 (-0.515, 1.463)
Adjusted <sup>1</sup>	5.52 (4.45, 6.84)	4.76 (3.93, 5.79)	5.52 (4.55, 6.71)		-0.745 (-1.630, 0.327)	0.0123 (-1.023, 1.271)
Tumor Necrosis Factor (pg/ml)						
Crude	4.56 (4.02, 5.16)	5.18 (4.56, 5.87)	5.21 (4.59, 5.92)	Referent	0.616 (-0.235, 1.634)	0.652 (-0.205, 1.677)
Adjusted <sup>1</sup>	4.68 (3.79, 5.77)	4.82 (3.99, 5.81)	5.02 (4.16, 6.05)		0.131 (-0.732, 1.184)	0.335 (-0.566, 1.446)

<sup>1</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>2</sup>Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

HR= heart rate, mm Hg = millimeters of mercury, N = number of observations, % = percent, pg/ml = picograms per milliliter

**Table S5. Sensitivity analysis exclusion of 4 outliers<sup>1</sup>: means and differences between means for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.**

Biomarker	Mean (95% Confidence Interval)			Difference between means (95% Confidence Interval)		
	Low <sup>2</sup> N = 89	Medium <sup>2</sup> N = 81	High <sup>2</sup> N = 80	Low <sup>2</sup>	Medium <sup>2</sup>	High <sup>2</sup>
Augmentation Index (percent at HR 75)						
Crude	5.1 (0.9, 9.4)	16.8 (12.6, 21.0)	14.7 (10.4, 19.0)	Referent	11.7 (5.6, 17.7)	9.6 (3.5, 15.7)
Adjusted <sup>3</sup>	10.9 (5.3,16.4)	15.9 (11.0, 20.9)	16.8 (11.8, 21.9)		5.1 (-0.1,10.3)	6.0 (0.6,11.3)
Systolic Blood Pressure (mm Hg)						
Crude	119 (115, 122)	119 (115, 122)	123 (119, 126)	Referent	0 (-5, 5)	4 (-1, 9)
Adjusted <sup>3</sup>	118 (112, 123)	116 (112,121)	120 (115, 125)		-1 (-6, 4)	2 (-3, 7)
Diastolic Blood Pressure (mm Hg)						
Crude	73 (70, 75)	73 (71,76)	76 (74, 79)	Referent	0 (-3, 4)	4 (0,7)
Adjusted <sup>3</sup>	74 (70, 78)	73 (70, 77)	76 (73, 79)		0 (-4, 3)	2 (-1, 6)
Interleukin-1β (pg/ml)						
Crude	0.538 (0.495, 0.585)	0.564 (0.518, 0.614)	0.622 (0.570, 0.678)	Referent	0.025 (-0.038, 0.097)	0.083 (0.012, 0.163)
Adjusted <sup>3</sup>	0.522 (0.454, 0.603)	0.556 (0.489, 0.632)	0.601 (0.530, 0.684)		0.034 (-0.036, 0.113)	0.079 (0.002, 0.166)
Interleukin-6 (pg/ml)						
Crude	0.759 (0.670, 0.857)	0.834 (0.736, 0.944)	0.853 (0.753, 0.968)	Referent	0.077 (-0.059, 0.237)	0.095 (-0.044. 0.262)
Adjusted <sup>3</sup>	0.823 (0.689, 1.00)	0.805 (0.681, 0.953)	0.818 (0.692, 0.968)		-0.024 (-0.154, 0.132)	-0.011 (-0.146. 0.149)
Interleukin-8 (pg/ml)						
Crude	4.94 (4.37, 5.58)	5.04 (4.45, 5.70)	5.36 (4.73, 6.07)	Referent	0.092 (-0.716, 1.069)	0.415 (-0.456, 1.454)
Adjusted <sup>3</sup>	5.37 (4.36, 6.64)	4.72 (3.91, 5.71)	5.43 (4.49, 6.58)		-0.650 (-1.498, 0.384)	0.062 (-0.934. 1/267)
Tumor Necrosis Factor (pg/ml)						
Crude	5.00 (4.54, 5.51)	5.13 (4.67, 5.64)	5.14 (4.67, 5.66)	Referent	0.128 (-0.523, 0.888)	0.248 (-0.523, 0.902)
Adjusted <sup>3</sup>	4.89 (4.20, 5.68)	4.71 (4.11, 5.40)	4.91 (4.29, 5.62)		-0.177 (-0.794, 0.533)	0.023 (-0.631, 0.776)

<sup>1</sup>More than 1.5 times the IQR below and above the lower and upper bounds of the IQR, respectively

<sup>2</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>3</sup>Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

HR= heart rate, mm Hg = millimeters of mercury, N = number of observations, % = percent, pg/ml = picograms per milliliter

**Table S6. Participants residing in Greeley or Windsor: Means for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to medium IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.**

Biomarker	Mean (95% Confidence Interval)		Difference between means (95% Confidence Interval)	
	Medium <sup>1</sup> N = 89	High <sup>1</sup> N = 37	Medium <sup>1</sup>	High <sup>1</sup>
Augmentation Index (percent at HR 75)				
Crude	17.6 (12.3, 22.4)	14.7 (11.0, 18.4)	Referent	-2.9 (-9.1, 3.4)
Adjusted <sup>2</sup>	17.1 (10.8, 23.4)	17.2 (11.2, 23.1)		0.029 (-5.8, 5.9)
Systolic Blood Pressure (mm Hg)				
Crude	120 (114, 125)	123 (119, 128)	Referent	3.6 (-3.8, 11)
Adjusted <sup>2</sup>	116 (109, 122)	121 (114, 127)		4.9 (-1.2, 11)
Diastolic Blood Pressure (mm Hg)				
Crude	72 (69, 76)	77 (74, 79)	Referent	4.2 (-0.4, 8.9)
Adjusted <sup>2</sup>	74 (69, 78)	78 (74, 82)		4.1 (-0.2, 8.4)
Interleukin-1β (pg/ml)				
Crude	0.569 (0.499, 0.649)	0.625 (0.565, 0.692)	Referent	0.056 (-0.040, 0.172)
Adjusted <sup>1</sup>	0.540 (0.443, 0.656)	0.582 (0.484, 0.700)		0.044 (-0.052, 0.160)
Interleukin-6 (pg/ml)				
Crude	0.811 (0.661, 0.995)	0.931 (0.796, 1.089)	Referent	0.118 (-0.098, 0.402)
Adjusted <sup>1</sup>	0.811 (0.627, 1.052)	0.910 (0.716, 1.156)		0.099 (-0.093, 0.340)
Interleukin-8 (pg/ml)				
Crude	4.932 (4.111, 5.902)	5.408 (4.710, 6.223)	Referent	0.488 (-0.646, 1.907)
Adjusted <sup>1</sup>	4.508 (3.475, 5.848)	5.679 (4.457, 7.261)		1.180 (-0.041, 2.736)
Tumor Necrosis Factor (pg/ml)				
Crude	4.875 (4.236, 5.623)	5.176 (4.645, 5.768)	Referent	0.301 (-0.560, 1.333)
Adjusted <sup>1</sup>	4.305 (3.524, 5.260)	4.831 (4.009, 5.821)		0.525 (-0.297, 1.502)

<sup>1</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>2</sup>Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

HR= heart rate, mm Hg = millimeters of mercury, N = number of observations, % = percent, pg/ml = picograms per milliliter

**Table S7. Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016 stratified by sex. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e., augmentation index, systolic blood pressure, diastolic blood pressure.**

	Mean (95% Confidence Interval)			Difference between means (95% Confidence Interval)		
Biomarker (N)	Low <sup>1</sup> N = 92	Medium <sup>1</sup> N = 81	High <sup>1</sup> N = 81	Low <sup>1</sup> N =92	Medium <sup>1</sup> N = 81	High <sup>1</sup> N = 81
Augmentation Index (percent at HR 75) <sup>2</sup>						
Women	11.4 (5.6, 17.3)	15.7 (10.0, 21.9)	16.6 (11.3, 21.9)	Referent	4.2 (-1.8, 10.3)	5.1 (-0.95, 11.2)
Men	0.36 (-7.1, 7.8)	8.0 (1.2, 14.9)	9.4 (1.0, 18.0)		7.7 (-1.6, 17.0)	9.1 (-1.1, 19.3)
Systolic Blood Pressure (mm Hg) <sup>2</sup>						
Women	118 (112, 123)	115 (109, 120)	120 (115, 125)	Referent	-3 (-9, 3)	2 (-4, 8)
Men	121 (113, 128)	125 (119, 132)	126 (117, 134)		5 (-4, 13)	5 (-5, 15)
Diastolic Blood Pressure (mm Hg) <sup>2</sup>						
Women	74 (70, 78)	72 (68, 76)	76 (73, 80)	Referent	-2 (-6, 2)	2 (-2, 7)
Men	74 (69, 79)	77 (73, 82)	77 (71, 83)		3 (-3, 9)	3 (-4, 10)

<sup>1</sup>Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer<sup>2</sup>, Medium 14.6 – 1242 well intensity/kilometer<sup>2</sup>, High > 1242 well intensity/kilometer<sup>2</sup>.

<sup>2</sup>Adjusted for age, race/ethnicity, BMI, education, income, and employment.

HR= heart rate, mm Hg = millimeters of mercury, N = number



## Questions asked on Health/Exposure Questionnaires

### Physical Activity

In a **typical week** (*please check one*):

Do you engage in at least 150 minutes of moderate-intensity sports, fitness, or recreational activities that cause a small increase in breathing or heart rate such as brisk walking ☐

Do you engage in at least 75 minutes of vigorous-intensity sports, fitness, or recreational activities that cause large increases in breathing or heart rate like running ☐

A combination of the above ☐

None of the above ☐

Prefer not to say ☐

In the last **7 days** (*please check all that apply*):

Did you engage in at least one vigorous intensity sporting event, such as a running or biking event, which caused a large increase in your breathing or heart rate? ☐

Did you engage in at least 150 minutes of moderate-intensity sports, fitness, or recreational activities that caused a small increase in breathing or heart rate such as brisk walking? ☐

Do you engage in at least 75 minutes of vigorous-intensity sports, fitness, or recreational activities that caused large increases in breathing or heart rate like running? ☐

None of the above ☐

Prefer not to say ☐

### Current Health

Have you encountered any unusual stress in the past 7 days or today?

During the last 7 days

Yes

☐

No

☐

Today

Yes

☐

No

☐

Have you experienced any of the following health complaints?:

	During the last 7 days		Today	
	Yes	No	Yes	No
Cold or flu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coughing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sore throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hay fever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Life Events (All Yes or No)

- Have you re-located your home in the past 3 months?
- Have you changed your marital status in the past 3 months?
- Has there been a major change in your family in the past 3 months (birth of a child, child leaving for school, child moving back home, etc.)
- Have you changed jobs/careers in the past 3 months?
- Have you or has someone close to you become seriously ill in the past 3 months?
- Has someone close to you died in the past 3 months?

Exposure ((All Yes or No)

- Did you encounter any exposure to gasoline fumes (such as pumping gas) during the last 24 hours?
- Were you exposed to any paint or cleaning product fumes during the last 24 hours?
- Were you on the site of an oil or gas well or other oil and gas facility in the last 24 hours?
- Please provide details for each episode of exposure:
- Were you near burning candles/incense at any point during the last 24 hours?
- Were you around a fire or a burning fireplace at any point during the last 24 hours?
- Did anyone smoke tobacco or marijuana around you in the last 24 hours?
- Did you drink caffeinated beverages such as coffee, tea, cola or energy drinks in the last 24 hours?
- Did you drink any alcohol within the past 10 hours?
- Did you eat or drink (except water) anything within the past 60 minutes?

Medications, Vitamins, and Supplements

- Do you take any prescribed medications?
- Please list all prescribed medications here.
- Do you take any vitamins or supplements?
- Please list all vitamins and supplements here.
- Have you taken any over the counter or prescribed medications in the last 24 hours?
- What medication(s) did you take?